# BCT Meeting Agenda May 26, 2004 Tetra Tech – San Francisco Office 135 Main Street, Suite 1800 0930 – 1500

0930	Introductions (Keith Forman)
0945	Navy Business/Action Items (Keith Forman
1000	Parcel B (IR-10) SVE Update (Ryan Ahlersmeyer)
1030	Parcel B (IR10) ZVI Treatability Study Update (Ryan Ahlersmeyer)
1100	Parcel C Feasibility Study Preliminary Scoping (Ralph Pearce)
1130	Site 01/21 Update (Pat Brooks)
1200	Lunch
1300	IR-25 Anaerobic/Aerobic Treatability Study Update (Glenn Christensen)
1330	Parcel A FOST/Building 322 Update (Keith Forman)
1345	Radiological Program Survey Priorities (Laurie Lowman)
1430	Action Items/Future Meetings (Keith Forman)
1445	Document Review Matrix (Keith Forman)
1500	Adjourn

# Hunters Point Shipyard Meeting Attendance Sheet

Topic:

BCT Meeting

Location:

Tetra Tech, San Francisco, CA

Date/Time:

May 26, 2004 / 9:30 a.m.

Organization	Name	Phone Number	E-Mail Address	Present
Navy	Keith Forman	619.532.0913	keith.s.forman@navy.mil	KP
	Patrick Brooks	619.532.0930	george.brooks@navy.mil	PB
	Ryan Ahlersmeyer	619.532.0960	ryan.ahlersmeyer@navy.mil	RA
	Glenn Christensen	619.532.0924	glenn.christensen@navy.mil	coe
	Mark Walden	619.532.0931	mark.walden@navy.mil	
	Jose Payne	619.532.0962	jose.payne@navy.mil	
	Ralph Pearce	619.532.0912	ralph.pearce@navy.mil	RP
				· · · · ·
U.S. EPA	Michael Work	415.972.3024	Work.Michael@epa.gov	MW
				.,,,,
DTSC	Tom Lanphar	510.540.3776	tlanphar@dtsc.ca.gov	TPL
	Eileen Hughes	510.540.3760	ehughes@dtsc.ca.gov	
RWQCB	Jim Ponton	510-622-2492	jdp@rb2.swrcb.ca.gov	706
	Laurent Meillier	510.622.2440	lm@rb2.swrcb.ca.gov	
	:			
City of SF	Amy Brownell	415.252.3967	amy.brownell@sfdph.org	ADB
Lennar/BVHP	Gregg Olson	415.554.3262	golson@sfwater.org	`
	Jesse Blout	415.554.6477	jesse.blout@sfgov.org	
	Bob Hocker	415.995.1770	robert.hocker@lennar.com	
	Dorinda Shipman	415.955.9040	dcshipman@treadwellrollo.com	
	Jaque Forrest	510.251.2888	jforrest@ch2m.com	
	Diane Sarmiento	510.251.2888	dsarmie1@ch2m.com	PLS
	Signida Reinis	415.955.9040	Sreinise treadwellrollo.com	SP
Tetra Tech EM Inc.	Julia Vetromile	415.222.8225	Julia.Vetromile@ttemi.com	m
Navy contractor	Debbie Cheng	415.222.8215	Deborah.Cheng@ttemi.com	DC
	TAMORA ZIELIUSK	916 284-1334	TAMANA . ZIELINSKI ETTEMI. COM	22
	STANALD	415 212-3286	Stan. Ali @ ++ ini · com	80_
				1
IARI	Jim Schollard	925-946-3/67	ischollard eitsi, com	15
ITSI	Arvind Acharya	925.946.3100	aacharya@itsi.com	000
Navy contractor	STEVE EDDE	415.657.0346	sedde@itsi.com	876
Shaw Group				
Navy contractor	0 01	415 (51 1000		120
Foster Wheeler	Gerry Slattery	415.671.1990	gslattery@ttfwi.com	(18)
Navy contractor -	Glenn-Start	619.234.8696	-gstarr@ttfwi.com	
Tech Law, Inc	Karla Brasaemle	415.281.8730	kbrasaemle@techlawinc.com	
EPA Contractor	Kalla Diasacillic	713.201.0/30	Korasacii ije (@teetha wille.com	KB.
Arc Ecology	Lea Loizos	(b) (6)	(b) (6)	ee
	Barbara Bushnell	(b) (c)	(b) (6)	00
Restoration	Darbara Bushnell	(b) (d)	(b) (6)	
Advisory Board		(1 ) (0)		ļ
Keith Tispel	<b>L</b> _	(b) (6)	twidner@chemrisk.com	TEW

# **Hunters Point Shipyard Meeting Calendar**

# **MAY 2004**

SUN	MON	TUE	WED	THU	FRI	SAT
CAC: Community Ad	laws and Community Outreach MI Office					Technical Subcommittee Parcel A Meeting 10:00 a.m. Milton Meyers Gym 195 Kiska Road, San Francisco, CA 94124
2	3	4	5 Economic Subcommittee Meeting 2:30-4:30 Anna Waden Library 5075 Third Street, San Francisco 94124	Technical Risk Review Subcommittee Meeting 5:30 p.m. Community Window at the Shipyard 4634 Third Street San Francisco 94124 CAC Environmental 6:00 p.m. meeting4075 Third Street, San Francisco 94124	7	8
9	10	11	Landfill RI/FS Storyboard Meeting 9:00 a.m4:00 p.m. MBCO Subcommittee Meeting 6:30-8:30 Anna Waden Library 5075 Third Street, San Francisco 94124	13	14	15
16	17	18	19	20	21	22
23	24	25	26 BCT Meeting 10-4 TtEMI 135 Main Street Suite 1800 San Francisco 94105 Radiological Subcommittee 3:00 p.m. Greenhouse Third Street, San Francisco, CA 94124	RAB Meeting 6-8:15 Dago Mary's Building 916 HPS San Francisco 94124	28	29
30	31	Notes:				

# **Hunters Point Shipyard Meeting Calendar**

JUN	<b>E 2</b>	0	04	
-----	------------	---	----	--

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3		5
6	7	8	9	10	11	12
13	14	15 6w m/g,	16	17	18	19
20	21	22	BCT Meeting W-4 TIEMI\ 135 Main Street Suite 1800 San Francisco 94105	24  RAB Meeting 6-8:15  Dago Mary's Building 916  HPS San Francisco 94124	25	26
27	28	29	30	Notes:  Items in italics are currently to BCT: Base Realignment and C MBCO: Meeting, Bylaws and TtEMI: Tetra Tech EMI Offic RAB: Restoration Advisory B	Closure Cleanup Team Community Outreach e	

#### HUNTERS POINT SHIPYARD BASE REALIGNMENT AND CLOSURE CLEANUP TEAM ACTION ITEMS

Action	Date Identified	Responsible Party	Date Due	Date Accomplished	Notes
Basewide: Follow up on ecological criteria discussions with RWQCB.	23-Sep-03	Keith Forman (Navy) Jim Ponton (RWQCB) Tetra Tech	7-Apr-04		Navy will schedule a meeting to discuss Parcel B ecological risk issues, pending availability of EPA/DTSC risk assessment specialists
Basewide: Clarify the differences between a non-TCRA and a TCRA to the community.	21-Apr-04	Keith Forman (Navy) Tetra Tech	TBD		·
Parcel B: Schedule a scoping meeting and separate storyboard presentation to discuss the technical memorandum in support of the ROD amendment. Compile a list of Parcel B issues requiring resolution.	23-Sep-03	Ryan Ahlersmeyer (Navy) Tetra Tech	TBD		Pending resolution of risk assessment technical issues. EPA comments were received regarding data issues.
Parcel B: Determine protocol for certification of quarry-derived backfill soil.	11-Feb-04	Ryan Ahlersmeyer (Navy) Tetra Tech	TBD		To be discussed at TMSRA scoping meeting
Parcel D: Discuss BCT comments on the TCRA work plan before the remaining excavations are initiated.	24-Mar-04	Mark Walden (Navy) Tetra Tech	TBD		Stockpile removal will continue until BCT comments are addressed

#### **HUNTERS POINT SHIPYARD BASE REALIGNMENT AND CLOSURE CLEANUP TEAM ACTION ITEMS**

Action	Date Identified	Responsible Party	Date Due	Date Accomplished	Notes
Parcel E: Send out formal correspondence documenting decision to create separate landfill RI/FS	24-Mar-04	Pat Brooks (Navy) Tetra Tech	TBD		Received informal approval from BCT to proceed with separate landfill RI/FS
Parcel E: Consider collecting additional confirmation samples to characterize excavated PCB removal action area. Include a discussion on ecological receptors in the PCB action memorandum.	21-Apr-04	Mark Walden (Navy) Tetra Tech	TBD		
Parcel E: Consider collecting additional Summa canister samples from the landfill area.	21-Apr-04	Pat Brooks (Navy) Tetra Tech	TBD		
Parcel F: Schedule a meeting to discuss Parcel F issues. Provide BCT with data beforehand.	15-Jan-04	Pat Brooks (Navy) Tetra Tech	TBD ·		Meeting will be scheduled after data is available

Notes:			
BCT	Base Realignment and Closure Cleanup Team	RPM	Remedial project manager
DTSC	Department of Toxic Substances Control	RWQCB	Regional Water Quality Control Board
EPA	U.S. Environmental Protection Agency	TBD	To be determined
Navy	Department of the Navy	TCRA	Time-critical removal action
PCB	Polychlorinated biphenyl	Tetra Tech	Tetra Tech EM Inc.
RI/FS	Remedial investigation/feasibility study		
ROD	Record of decision		

#### Recent Completed Review Periods Document Review Matrix Hunters Point Shipyard

			Submittal	Expected Date		Ag	ency Submitta	l of Commen	its
Item	Parcel	Document Name	Date	for Comments	Notes	EPA	DTSC	RWQCB	City of SF
					Final document to be submitted in June				
1	E	Draft Final Landfill Cap Removal Action Closeout Report	2/4/2003	4/18/2003	2004	3/31/2003	•	4/16/2003	*
2	E	Draft Landfill Lateral Extent Report	5/15/2003	6/30/2003	RTCs planned for submittal in June 2004	6/20/2003	6/26/2003	6/30/2003	
	_			-110/0000	RWQCB requested 4-day extension (original date was 9/15/2003); final document with RTCs planned for June		9/11/2003; resent		
3	<u> </u>	Draft Landfill Liquefaction Potential Report	8/1/2003	9/19/2003	2004  RWQCB requested 7-day extension (original date was 2/2/2004); final document with RTCs planned for June	8/29/2003 2/2/2004; clarification	5/20/2004	10/2/2003	9/18/2003
4	B/C/D/E	Draft Groundwater Monitoring Program Sampling and Analysis Plan	12/18/2003	2/9/2004	2004 pending receipt/resolution of agency comments	sent on 3/1/2004	2/17/2004 3/18/2004	3/23/2004	3/4/2004
5	В	Draft Annual/October to December 2003 Quarterly Groundwater Monitoring Report	2/27/2004	4/5/2004	EPA requested a review extension until 4/5/2004; final report with RTCs to be submitted on 6/18/2004	4/6/2004		4/13/2004	

#### Notes:

\* - comments deferred to other agency

n/a - not applicable

TBD - to be determined

#### Ongoing Review Periods Document Review Matrix Hunters Point Shipyard

			Submittal	Expected Date		Ag	ency Submitta	l of Commen	its
Item	Parcel	Document Name	Date	for Comments	Notes	EPA	DTSC	RWQCB	City of SF
					Agency comments on draft RTCs linked				
					with HHRA proposal; final CSR with RTCs				l
	]				planned for Sept 2004 pending				
11	В	RTCs for Draft Construction Summary Report	1/15/2004	1/30/2004	receipt/resolution of agency comments				
	1			i .	Final document with RTCs planned for				
2	D	Action Memorandum for Time-Critical Removal Action	2/24/2004	3/26/2004	6/21/2004	3/23/2004	3/26/2004	4/6/2004	
		L		·	Final report planned for 8/17/2004		}		
_	<b> </b> '	Draft Final Historical Radiological Assessment, Volume			pending receipt/resolution of agency				
3	Basewide		2/25/2004	4/27/2004	comments	4/27/2004			4/21/2004
		Wednesday to The College Bernand Asker	0/07/0004	4/40/0004	Final document with RTCs planned for	17/0001	4/40/0004	1/0/0001	
4	D	Workplan for Time-Critical Removal Action	2/27/2004	4/12/2004	7/1/2004 Final report with RTCs planned for	4/7/2004	4/16/2004	4/6/2004	
ĺ	1						ļ	İ	
_	l E	But the addition Bereat Action Classes Depart	0/40/0004	E/0/0004	6/17/2004 pending receipt/resolution of	4/00/0004	ŀ		
5	<u> </u>	Draft Landfill Gas Removal Action Closeout Report	3/19/2004	5/3/2004	agency comments Final report with RTCs planned for	4/26/2004			ļ
					7/5/2004 pending receipt/resolution of			i	
6	E	Draft Interim Landfill Gas Monitoring and Control Plan	3/19/2004	5/20/2004	agency comments	5/10/2004		1	
0	<u>_</u>	Trail Intellin Landill Gas Monitoring and Control Flan	3/19/2004	5/20/2004	agency comments	5/10/2004	· ·	<b></b>	<del>                                     </del>
					Comment period extended by Navy			]	
					(original date was 4/19/2004); final FOST			İ	
	1				planned for October 2004 pending			Į.	
7	A	Draft Final Finding of Suitability to Transfer, Rev 2	3/19/2004	5/24/2004	receipt/resolution of agency comments	5/24/2004	5/24/2004	recv'd	5/25/2004
<del></del>	<del>                                     </del>	Pract I man I moving or Social many to Transfer, 1164 2	0/13/2004	3/24/2004	RTCs planned for 6/7/2004 pending	3/24/2004	3/24/2004	1007 0	3/23/2004
8	C/E	Draft Waste Consolidation Summary Report	3/23/2004	5/7/2004	receipt/resolution of agency comments				
	- 0/-	Dian Waste Consolidation Caminary Fieport	0/20/2004	3772004	Final report with RTCs planned for				
	ļ	· ·		·	6/24/2004 pending receipt/resolution of				
9	E	Draft January 2004 Monthly Gas Monitoring Report	3/26/2004	5/10/2004	agency comments	4/30/2004			1
	<del></del>	Drain Gardan, 200 months, and months, and	0/20/2001	9/10/2001	agono, commono	1,00,200,			<del></del>
10	E	Final February 2004 Monthly Gas Monitoring Report	4/9/2004	n/a	For information purposes only	4/30/2004			
					Final report with RTCs planned for		<del></del>		
					7/1/2004 pending receipt/resolution of				
11	В	Draft Final Phase III SVE Work Plan	4/16/2004	6/7/2004	agency comments				
		Proposed SLERA Methodology for the Parcel B			Document developed for the Parcel B				
12	В	Shoreline .	4/13/2004	5/14/2004	TMSRA '	5/6/2004			
					Final report with RTCs planned for				
				l	7/16/2004 pending receipt/resolution of				1
13	В	Draft CAP Addendum	4/15/2004	6/1/2004	agency comments	n/a	n/a		n/a
					RTCs planned for 7/19/2004 pending			ŀ	l .
14		UST Closure Request and Documentation	4/16/2004	6/2/2004	receipt/resolution of agency comments	n/a	n/a	ļ <u></u>	n/a
		Metal Reef/Slag Removal Action Site Characterization			RTCs planned for 7/5/2004 pending				
15	_ E	Work Plan	4/19/2004	6/3/2004	receipt/resolution of agency comments	5/20/2004			ļ
	_				RTCs planned for 7/19/2004 pending				
16	D	UST Closure Request and Documentation	4/20/2004	6/2/2004	receipt/resolution of agency comments	n/a	n/a		n/a_
17	E	Final March 2004 Monthly Gas Monitoring Report	5/6/2004	n/a	For information purposes only			·	

#### Notes

\* - comments deferred to other agency

n/a - not applicable

TBD - to be determined

#### Upcoming Review Periods Document Review Matrix Hunters Point Shipyard

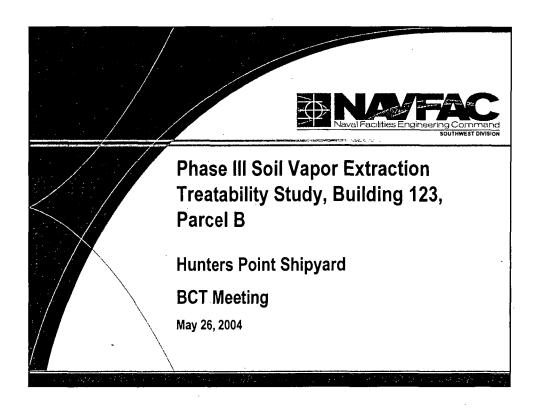
			Approximate	Expected Date	
Item	Parcel	Document Name	Submittal Date	for Comments	Notes
					Tentative submittal date; for
1	E	Final April 2004 Monthly Gas Monitoring Report	6/3/2004	n/a	information purposes only
		Work Plan for Follow-on Zero Valent Iron		45 days from	
_ 2	С	Treatability Study at Building 123	6/8/2004	submittal date	Tentative submittal date
				30 days from	1
3	F	Draft Final Validation Study Report	6/8/2004	submittal date	Tentative submittal date
		January to March 2004 Quarterly Groundwater			Tentative submittal date; for
4	В	Monitoring Data Package/Field Summary Report	6/24/2004	n/a	information purposes only
				45 days from	
5	C/D/E	Draft CAP Revision 2	6/25/2004	submittal date	Tentative submittal date
				45 days from	
6	E	Draft Shoreline Technical Memorandum	6/25/2004	submittal date	Tentative submittal date
		Landfill Storm Water Discharge Management			Tentative submittal date; for
7	E	Program 2002-2003 Annual Report	7/1/2004	n/a	information purposes only
1	_				Tentative submittal date; for
8	E	Final May 2004 Monthly Gas Monitoring Report	7/1/2004	n/a	information purposes only
	_	Interim Data Analysis Document for Standard Data		_	Tentative submittal date; for
9	E	Gaps Investigation	7/2/2004	n/a	information purposes only
				45 days from	
10	C	Dry Dock 4 Water Sampling Summary Report	7/11/2004	submittal date	Tentative submittal date
	_			_	Tentative submittal date; for
11	В	Zero Valent Iron Cost and Performance Evaluation	7/12/2004	n/a	information purposes only
	_			30 days from	<u> </u>
12	E	PCB Removal Action Action Memorandum	7/16/2004	submittal date	Tentative submittal date
	_			45 days from	
13	ΕΕ	PCB Removal Action Work Plan	7/23/2004	submittal date	Tentative submittal date
l	_	W + + + + B + + + + + + + + + + + + + +		45 days from	
14	E	Workplan for Parcel E IR-02 Removal Action	7/23/2004	submittal date	Tentative submittal date
1 1	_	Final time 0004 Monthly Con Monitorine Description		-/-	Tentative submittal date; for
15	Ē	Final June 2004 Monthly Gas Monitoring Report	7/29/2004	n/a	information purposes only

#### Notes:

\* - comments deferred to other agency

n/a - not applicable

TBD - to be determined



# **Presentation Overview**



- Project objectives
- Summary of previous investigations
- Phase III activities
- •Path forward/schedule

# **Project Objectives**



- •Further evaluate the effectiveness of SVE at removing VOCs from soil beneath Building 123.
- •Further evaluate the extent of VOCs in soil and soil gas in order to properly design the extraction well field.
  - -Soil and soil gas sample collection

# **Summary of Previous Activities**



- 1998 -- Phase I SVE Treatability Study
- 2000 -- Phase II SVE Treatability Study
  - Seven sites in Parcels B, C and E
- 2002 -- SVE Confirmation Study
  - Building 123

### **Summary of Previous Activities (cont.)**



#### Phase II SVE Treatability Study included:

- December 6, 2000 June 1, 2001
- 14 SVE wells and 18 vapor monitoring (VM) wells (9 nested pairs)
- Before system operation
  - VOC mass in soil estimated to be 75 pounds based on limited soil sampling
  - VOC mass in soil gas estimated to 0.3 pounds
- After system operation
  - Influent monitoring indicated a cumulative mass removal of 74 pounds
  - Equilibrium calculations indicated a soil to air/groundwater gradient .

# **Summary of Previous Activities (cont.)**



#### SVE Confirmation Study

- September 10-16, 2002
- 22 soil borings installed within the treatment zone
  - 11 borings near existing SVE and VM wells
  - 11 borings near previously collected soil samples
- Total of 44 soil samples and 32 soil-gas samples

D CV	-	Post-SVE	Ξ
Pre-SV	<b>C</b>	↑ Total TCE	10 kg
Total TCE	49 kg	Vapor TCE	0.1 kg
Vapor TCE	1 kg	Dissolved TCE	1 kg
Dissolved TCE	8 kg	Sorbed TCE	•
Sorbed TCE	41 kg	Sorbed ICE	9 kg

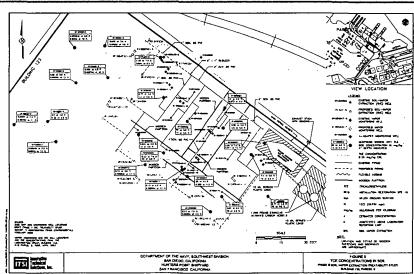
#### **Phase III Activities**

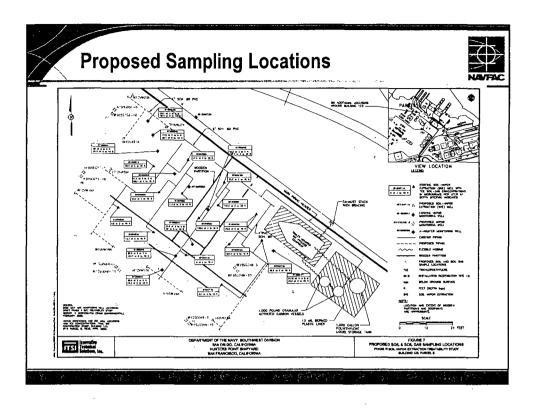


- Initial evaluation of VOCs in soil and soil-gas
  - 1 soil and 1 soil-gas sample collected from approximately 20 locations (depending on results)
  - Comparison of results against Environmental Screening Levels (ESLs) for soil and soil-gas (DTSC, 2003)
    - Soil-gas 1.2 ug/L (residential)
    - Soil 0.26 mg/kg (residential)
  - If results exceed ESLs, possible stepouts and inclusion in the treatment area
  - Preliminarily planning on 9 SVE wells and 10 VM wells (5 nested pairs)

# **Current Conditions**







# **System Startup and Operation**



- Baseline PID measurements at all existing SVE and VM wells
  - 5 wells with the highest PID readings selected for air sampling
- During system operation, soil-gas samples will be collected at the system influent once per week for the first month, and monthly thereafter
- Two months after shutdown, 5 soil-gas samples collected from wells with highest PID readings
  - At least one well will be from the baseline sampling group

# Path forward / schedule

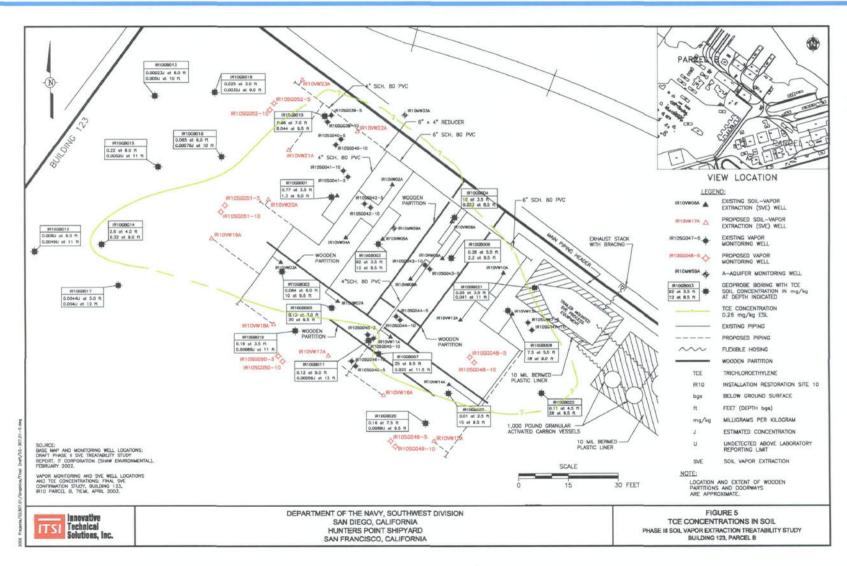




- •Finalize Work Plan/SAP July 1
- •Begin preparation for initial evaluation of VOC extent in soil and soil gas June 1
- Install SVE and VM wells August 24
- •System operation September, 2004 March, 2005
- •Treatability Study Report June 2005

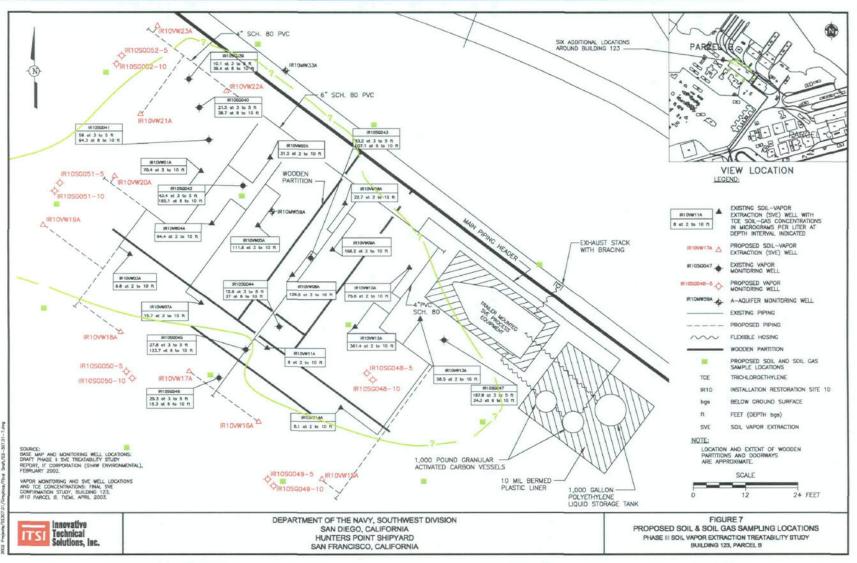
# **Current Conditions**

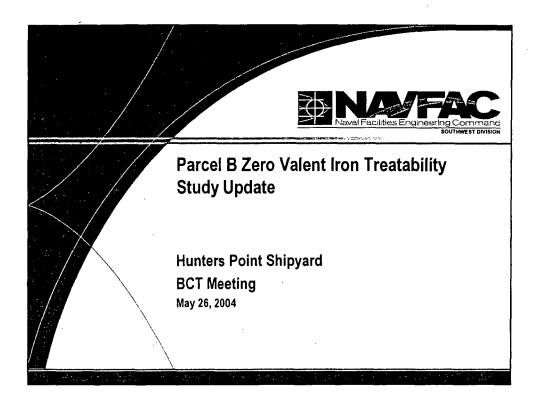




# **Proposed Sampling Locations**







# Parcel B ZVI Update



- Project Overview
- · Sampling Results
- Conclusions

#### **Building 123 ZVI Overview**



#### Project Objectives

- -Evaluate effectiveness of zero-valent iron (ZVI) in reducing VOC concentrations, primarily TCE, in shallow groundwater
- -Demonstrate/validate ZVI technology when applied to lower concentrations of TCE and different fill conditions

#### Implementation

- -Injection conducted between September 9 and October 13, 2003
- -130,460 pounds of iron injected into 37 boreholes

#### **Building 123 ZVI Overview – Groundwater Monitoring**



- 4 complete sampling events: Baseline and 2, 6, and 22 weeks after injection
- Analyses include: VOCs, total and dissolved iron, alkalinity, ethane/ethene, dissolved arsenic, and dissolved manganese
- •20 new wells and 4 existing wells
- •8 wells in the expected treatment zone; 16 outside the treatment zone (upgradient, downgradient and crossgradient wells)

#### **Building 123 ZVI Overview - Interim Sampling Events**



- Two additional events conducted at 14 and 18 weeks after injection
- Added to extend the length of the study and provide focused data within the treatment zone
- · Analyte list: VOCs, total iron and dissolved iron
- •Included only the seven wells within the treatment zone containing detectable concentrations of TCE

#### Sampling Results to Date in Treatment Zone



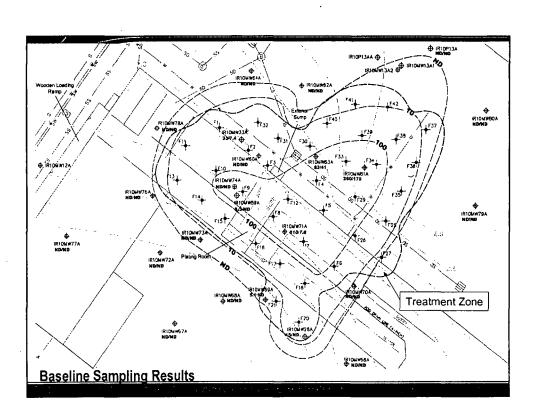
Location :	Distance from Nearest Injection Point (feet)	8/29-	Round 1 10/27- 10/30/2003	Round 2 11/24	ost Injectio Interim 1 1/21/2004	Interim 2	Round 3 3/16- 3/18/2004	Mean*	Delta* {µg/L}	Delta (%)
Trichloroeth	епе								i	
IR10MW59A	5	8.31	460	340	200	110	100	242.0	-218.0	-47%
IR10MW63A	7	83	160	200	150	130	150.	158.0	-2.0	-1%
IR10MW69A	7	5.1	8.5	ND (<5.0)	ND (<5.0)	5.4	ND (<5.0)	4.3	-4.2	-50%
IR10MW33A	8	33	6.2	ND (<5.0)	ND (<5.0)	ND (<5.0)	ND (<5.0);	3.2	-3.0	<b>-48%</b>
IR10MW61A	9 !	260	130	ND (<5.0)	ND (<8.3)	ND (<10)	ND (<10)	29.3	-100.7	-77%
IR10MW28A	10	15	15	7.6	13;	12	11	11.7	-3.3	-22%
IR10MW71A	12	610	1200	810	860	710	590	B34.0	-366.0	-31%
Mean Inside	Treatment Zone: i	1451	283 i	195	176	139	123	183	-100	-35%

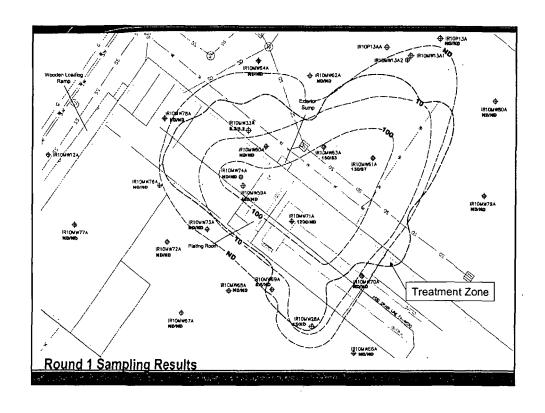
- •Anomalous baseline results e.g. IR10MW59A contained 300 µg/L TCE on 8/19/03
  - -Post injection mean calculated from November 2003 to March 2004
  - -Delta is difference between Round 1 and mean
- Three wells reduced to ND in treatment study zone
- Overall reduction 35%

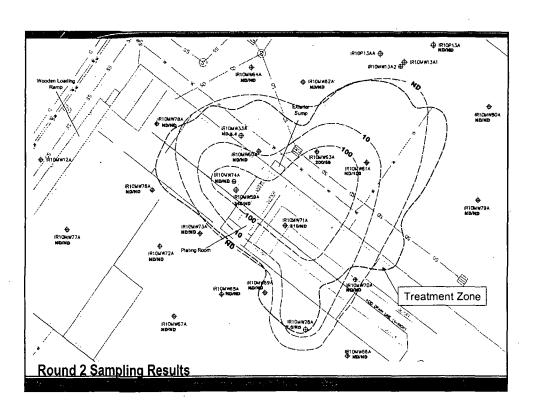
# Sampling Results in Treatment Zone – Total Iron

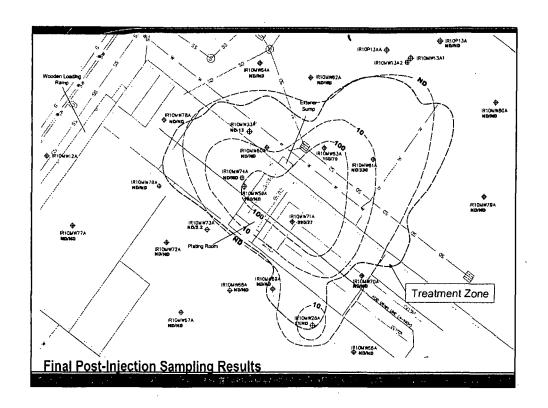


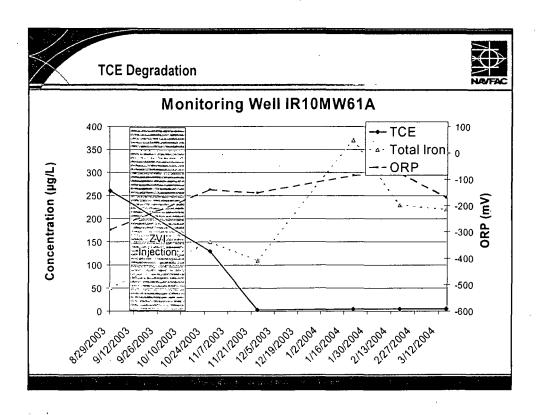
_	Distance from	Baseline	Post Injection (µg/L)						2 - 1
Location	Nearest Injection Point (feet)	(µg/L) 8/29- 9/3/2003	Round 1 10/27- 10/30/2003	Round 2 11/24- 11/25/2003		Interim 2 2/18/2004	3/16-	Mean*	Delta* (µg/L)
Total Iron -									
IR10MW59A	5	ND (<100)	ND (<100)	120	550	340	ND (<100)	222.0	172.0
IR10MW63A	7	ND (<100)	ND (<100)	ND (<100)	250	130	150	126.0	76.0
IR10MW69A	7	ND (<100)	ND (< 100)	ND (<100)	ND (<100)	ND (<100)	ND (<100)	50.0	0.0
IR10MW33A	8	ND (<100)	1600	3300	1200	240	1600	1588.0	1538.0
IR10MW61A	9	ND (<100)	150	110	.370	230	220	216.0	166.0
IR10MW28A	10	ND (<100)	3000	1000	280	1100	3700	1816.0	1766,0
IR10MW71A	12	ND (<100)	ND (< 100)	ND (<100)	ND (<100)	ND (<100)	ND (<100)	50.0	0.0
Mean Inside	Treatment Zone:	ND (<100)	707	669	393	306	831	581,1	531.1

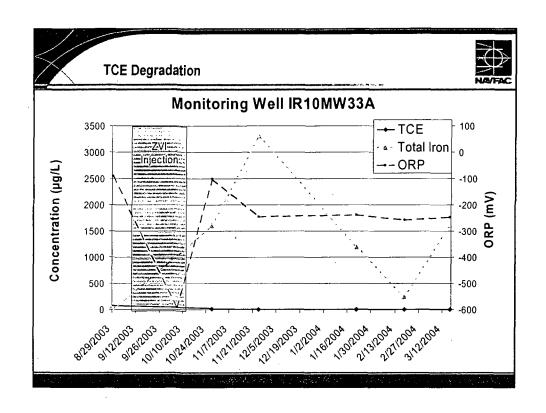


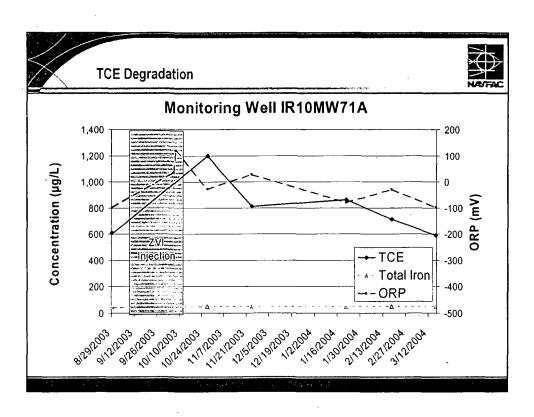


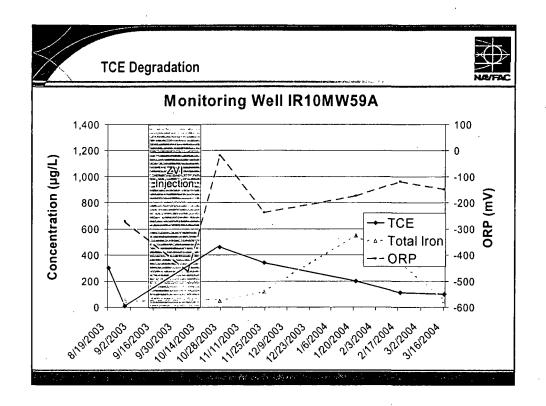








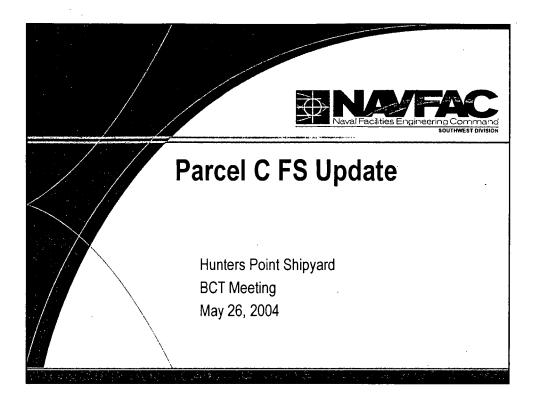




#### Conclusions



- Overall 35 % reduction in TCE
- •Factors affecting cost and performance
  - Geology high permeability fill limiting radius of influence
  - Iron distribution



# **Overview of Presentation**



- •FS organization
- •Redevelopment blocks and risk grids
- •Parcel C HHRA- soil and groundwater
- •Parcel C ecological risk
- Preliminary remedial action objectives
- •Soil sites requiring remediation
- •Key soil process options
- Groundwater areas for remediation
- Groundwater technologies
- Treatability Studies
- •Next Steps Schedule

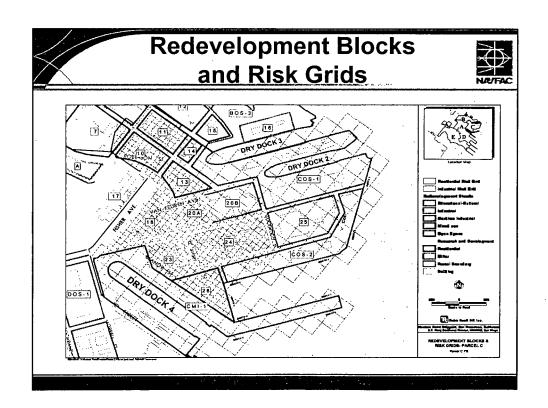
# **Feasibility Study Organization**



Parcel C Feasibility Study Organized By Redevelopment Block

#### Report Contents:

- Site Characterization
- · Summary of the Results of the Human Health Risk Assessment
- ARÁRs
- · Remedial Action Objectives
- · Remedial Goals
- · General Response Actions
- Detailed Analysis of Alternatives
- Comparative Analysis of Alternatives



#### Parcel C HHRA - Soil



Parcel C FS will use the same methodology outlined for Parcel B in letter to Agencies dated April 14, 2004

#### **Key Assumptions**

- Total risk will be calculated (no screen against HPALs)
- Residential exposure will be evaluated parcel-wide for 2,500 ft<sup>2</sup> grids, 0-2 feet and 0-10 feet bgs
- Industrial exposure will be evaluated parcel-wide for 0.5 acregrids, 0-2 feet and 0-10 feet bgs
- Construction worker exposure will be evaluated parcel-wide for 0.5 acre grids, 0-10 feet bgs
- Recreational (open space) exposure will be evaluated parcel wide for 0.5 acre grids, 0-2 feet bgs

#### Parcel C HHRA- Groundwater



- Total risk will be calculated (no screen against HGALs)
- Groundwater risks will be calculated by plume; risks will be applied to exposure grids encompassed by the plume, including a 100-foot buffer
- Methodology will be consistent with approach for Parcel B
- A-aquifer will be evaluated for indoor vapor intrusion
- B-aquifer and bedrock water-bearing zone will be evaluated for ingestion and household use pathways
- Interconnected A- and B- aquifers will be evaluated on a case by case basis.

## Parcel C Ecological Risk – Soil and Groundwater



- No complete exposure pathway to ecological receptors from soil
  - -No terrestrial habitat determined in the RI
  - -Paved areas and engineered shoreline
- · Groundwater data will be compared to ecological criteria
  - -National Ambient Water Quality Criteria for salt water receptors

# **Preliminary Remedial Action Objectives**



#### Soil

- Prevent ingestion of, direct contact with or inhalation of soil at concentrations that may pose unacceptable blood-lead levels
- Prevent ingestion of, direct contact with, or inhalation of carcinogenic hazardous substances in soil resulting in ELCR exceeding 10E-6
- Prevent ingestion of, direct contact with, or inhalation of non-carcinogenic hazardous substances resulting in cumulative HI greater than 1

#### Groundwater

- Prevent inhalation of VOCs that pose a risk in groundwater resulting in ECLR greater than 10E-6 or a cumulative HI greater than 1 in the A-aquifer
- Prevent the domestic use of groundwater that poses a risk in groundwater resulting ECLR greater than 10E-6 or a cumulative HI greater than 1 in the B-aquifer
- Prevent exposure to ecological receptors from groundwater discharge to surface water at concentrations above the ecological criteria

# **Soil Sites Requiring Remediation**



#### **Soil IR Sites**

IR-06, IR-25, IR-27, IR-28, IR-29, IR-30, IR-57, IR-58 Contamination: PAHs, PCBs, pesticides, TPH, SVOC, VOC, Metals

# **Key Soil Technologies**



- Excavation and Off-Site Disposal
- •Land-use Controls
- Capping
- •SVE

# Soil Sites to be Evaluated PARCELA ONY DOCK? ONY DOCK? ONY DOCK? ONY DOCK? A THI CORRECTIVE ACTION AREAS CITYL CAP) SOM SITES TO SE EVALUATED AMELIA SOLUTION CELL SHAPE CHIRAL SOILS ON SOLUTION AREAS CITYL CAP) SOLUTION OF SOLUTION AREAS CITYL CAP AREAS CI

### **Groundwater Areas for Remediation**



#### **Groundwater**

RU-C1 - IR28 Buildings 211, 231, and 253

RU-C2 - IR28 Buildings 251 and 258

RU-C4 - IR28 Buildings 272 and 281

RU-C5 - IR25 Building 134

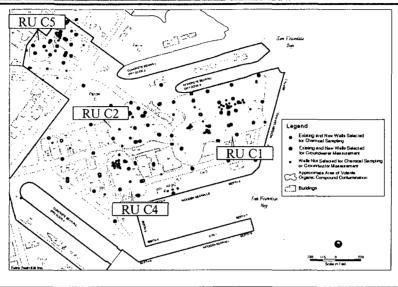
Limited groundwater contamination in other areas

#### Contamination:

- Dissolved phase chlorinated hydrocarbons (PCE and associated degradation products) present in each Remedial Unit (RU)
- •Dichlorobenzene and benzene also present at RU-C1 and RU-C5
- DNAPL detected at RU-C5
- •LNAPL detected in wells IR25MW11A and IR28MW129A (RU-C5)

# Parcel C Groundwater RU Sites





# **Treatability Studies**



- RU-C4 Zero Valent Iron (ZVI) Injection conducted to degrade chlorinated compounds.
  - -A follow on treatability study planned for 2004-2005
  - -Workplan is in progress
- RU-C5 Anaerobic and Aerobic Biodegration Study
  - -Source removal completed
  - -Injection of lactate and hydrogen receptors begun
  - -Preliminary results only
- RU-C1, RU-C2, RU-C4, RU-C5 SVE
  - -Systems operated for 3 to 4 months with limited success

# **Key Groundwater Technologies**

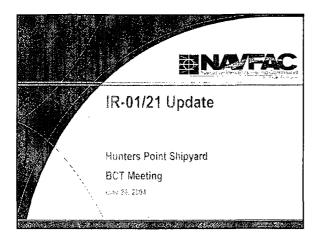


- ZVI Injection, Enhanced Bioremediation, and Monitored Natural Attenuation (Dissolved Phase Chlorinated Hydrocarbons)
- Dual Phase Vapor Extraction, Open Excavation and Skimming for Recovery of LNAPL (LNAPL)
- Thermal Treatment, Surfactant Enhanced Recovery plus Pump and Treat, and ZVI Injection (DNAPL)
- · Groundwater Monitoring
- Engineering Controls –sub slab depressurization systems in existing buildings to recover vapor or vapor barriers
- Land Use Controls deed restrictions to restrict future access to groundwater or deed restriction for newly constructed buildings to include vapor barriers.

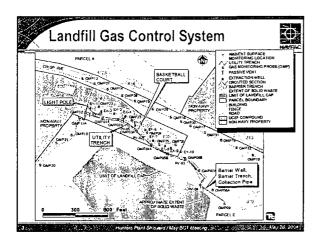
#### **Next Steps - Schedule**



- ARARs will be requested from DTSC, EPA, BCDC, and RWQCB
- HHRA developed following methodology agreement for Parcel B
- Scoping meeting with regulators July 2004
- Draft Parcel C FS February 2005



# Preliminary May landfill gas monitoring results Summary of landfill RI/FS storyboard meeting comments Summary of Alternatives Next Steps



#### Monitoring Locations



#### ·32 GMPs

- ·14 Barrier (Passive Vents are also Monitored)
- •5 UCSF Compound
- ·13 Crisp Avenue

#### ·On-Site Structures

- -9 Groundwater Extraction Well Vaults
- •2 Catch Basins

#### ·UCSF Compound

- ·Building 830 Crawl Space
- ·Surface Scans at 3 locations

#### **Parameters Monitored**



	Units	GMPs	Structures	Surface
Methane	percent, percent LEL	x	×	х
Background NMOCs	parts per million	х	х	x
NMOCs	parts per million	x	x	х
CO2	percent	x	х	x
02	percent	х	х	х
Soil Gas Pressure	inches water	x		

Preliminary Monitoring Results -

Way, 2004					
System	Methane	NMOCs	Action		
Crisp Avenue GMPs	ND	At background 0.1ppm	No action		
On-site Structures	< 1.25%	< 1 ppm	No action		
UCSF Compound	GMP24 = 2.6%; < 5% in all GMPs	< 100 ppm (GMP22 = 2.8, GMP23 = 38 2, GMP24 = 0.1, GMP25 = 0.1, GMP26 = 0.1)	Notify UCSF and initiate extraction on UCSF compound; Increase extraction flow rate at PV-03		
Building 830	< 1,25%	ND	No action		

Fence Line GMPs (All GMPs = 0.1)

< 100 ppm

No action

< 5%

2

# LF RI/FS Storyboard Comment Areas · Landfill Extent - Waste Material - Adjacent Soils · Risk Assessment **Excavation Alternative** Groundwater · Landfill Gas Liquefaction Landfill Extent and Adjacent Soils Definition of the extent of solid waste must be clear - Based on physical properties of waste - Construction debris is not included - Chemical Waste to be considered Adjacent Soils Contamination - Extent based on chemical properties of soil Metals contamination (sandblast grit) · TPH - Compare to areas of groundwater contamination Wetlands Concerns ·Remedial Action Design should: -Mitigate impacts to wetlands due to construction -Design drainage (stormwater) improvements to be compatible with wetlands -Consider removal of adjacent contaminated soil

### Risk Assessment



Agencies requested the following:

- · Validate use of Qualitative Risk Assessment for human health
  - Qualitative Risk Assessment is recommended by EPA guidance to evaluate contaminants and exposure pathways
- Provide methodology for Risk Assessment to DTSC prior to RUES
- · Consider ecological risk assessment and address risk from
  - Radioactivity
  - Mercury
- · Shoreline Characterization Report

**Excavation Alternative** 



BCT concerns included the following:

- -Fully evaluate excavation as an alternative
  - -Include detailed, transparent cost estimate
  - -Include radiological screening
  - -Address dewatering and stabilization
- •Discussion of excavation should address significant adverse impacts of removing the landfill
- ·Consider reuse when evaluating excavation
- ·Consider partial excavation as an option
  - -Partial excavation will be done as part of TCRA, not as a new alternative

C Hunter's Point Shlovard / May BCT Meeting

Groundwater



- •Agencies requested including 2004 data in RI/FS
- Monitoréd natural attenuation needs additional backup
   Additional monitoring wells are planned near shoreline
- B-aquifer characterization needs to be discussed
  - -Additional B-aquifer monitoring wells are planned
- Increase monitoring along shoreline
- -Additional action will be implemented based on a review of monitoring data and screening criteria

# Landfill Gas Concerns •All pockets of putrescible waste not identified (DTSC) ·Alternatives should include monitoring VOCs ·Community concerns regarding flare and dioxins Liquefaction •Address DTSC comments on the liquefaction report ·Is stabilization needed to prevent discharge to the Bay? FS Alternatives Discussion •Three types of alternatives planned: -No Action -Landfill and hot spot excavation and off-site disposal -Capping based alternatives · Cap Remainder of landfill ·Cap adjacent soil contamination · Consolidate and cap adjacent soil contamination · Landfill gas and groundwater monitoring

# Common Components for Capping Alternatives



- · 30 year monitoring and maintenance period
- Shoreline slope stability
- · Secure on-site maintenance and treatment equipment areas
- · Deed restrictions on the future use of the property
- · Stormwater management to control sedimentation to the bay
- · Mitigate wetland impacts due to construction
- · Landfill gas control
- · Landfill gas and groundwater monitoring

### Variations of Capping Alternative



- · Type of Cap
- Native Soil
- Single Barrier Layer
- Adjacent Soils
  - Consolidate under cap
  - Extend cap over hot spots
- Landfill Gas Treatment
  - Carbon Filter
  - Landfill Gas Flare

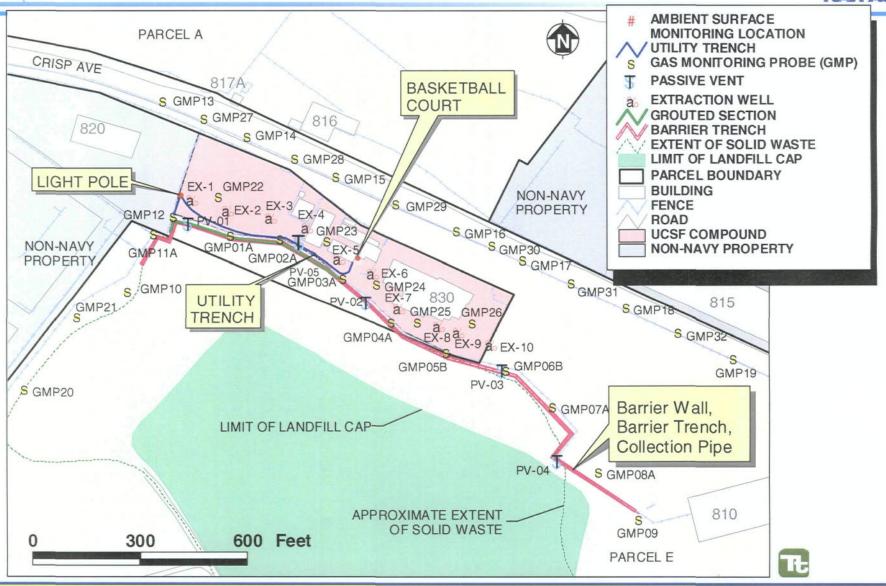
17 Municias Point Shpyard / May BCT Meeting Communication 2017 May 76, 2018

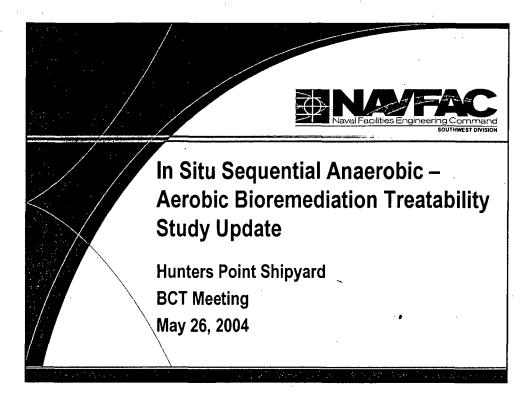
·Landfill Gas Monthly Monitoring	
1	
-Compile May results	
-Address EPA comments in May report	
·Landfill RI/FS	
-Define boundaries of landfill operable unit	
-Draft text, tables, and figures for RI/FS document	
•	

•

# **Landfill Gas Control System**







### **Primary Goals of Treatability Study**

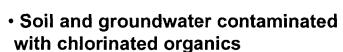


- Evaluate anaerobic biodegradation of chlorinated organics (Stage 1); Ex. PCE, TCE
- Evaluate aerobic biodegradation of other organics (Stage 2); Ex. Vinyl Chloride
- Evaluate large diameter well for groundwater extraction and distribution of nutrients

# **Treatability Study Location & Conditions**



- •Building 134 RU-C5
- Groundwater ~8 ft bgs
- Low hydraulic conductivity
   A1 Zone: ~ 0.1 ft/day
   A2 Zone: 0.24 to 0.55 ft/day



- Chlorinated ethenes (PCE, TCE, DCE, VC)
- Chlorobenzene
- Dichlorobenzenes
- Chloroethanes

# **Treatability Study Conditions** Well Installation Soil Sample Data



Collect. Date	Well Location - Sample ID	Location Relative to Treatability Area	Sample Depth (feet bgs)	Aroctor 1260 (ug/kg)	1,2- Dichloro benz (ug/kg)	1,2-DCA (ug/kg)	Cis-1,2- DCE (ug/kg)	PCE (ug/kg)	TCE (ug/kg)	VC (ug/kg)
2/25/2004	IR25IW02A-371	Inside: 10 ft SE of center	10.5 to 11.5	25	14	123	55	<.45	1	49
2/25/2004	IR25IW02A-372		15 to 16.5	<42	1,500	<630	<630	1,000	<630	<1300
2/24/2004	IR25MW53A-387	Inside: @ center	10 to 11.5	<49	70 .	<7.4	9	<7.4	<7.4	39
2/24/2004	IR25MW53A-368		15 to 16.5	<42	1	2630	130	<6.7	<6.7	100
2/24/2004	IR25MW54A-364	Inside:7 ft W of center	10 to 11.5	<39	<5	<5	<b>&lt;</b> 5	<b>&lt;</b> 5	<5 ·	<10
2/24/2004	IR25MW54A-365		15 to 18.5	<39	97,500	14,300	5,500	87,700	600	230
2/23/2004	IR25MW55A-362	Outside.27 ft N of center	10 to 11.5	<48	70	120	36	1,810	20	5
2/23/2004	IR25MW55A-363		15.5 to 16.5	<40	7,060	3,220	635	79	5,500	100
2/25/2004	IR25-MW56A-369	Inside: 9 ft W	17 to 18 5	9'	872,000	44,300	5,000	669,000	2,200	170
3/1/2004	IR25MW56A-377	of center	25 to 27	<40	9	12	<5.2	0.6	<5.2	<10
2/23/2004	IR25MW57A-360	Outoido 29 ft	5.5 to 6.5	52	<5.5	<5.5	<5.5	29	5	<11
2/23/2004	IR25MW57A-361	Outside 28 ft N of center	15.5 to 16.5	<40	<6.4	<6.4	70	<6.4	10	<13

# **Treatability Study Conditions**



Baseline Well Sample Data – "Highest Hits"

Well Location	IR25EW01A	IR25MW55A	IR25MW57A	IR25MW53A	IR25MW54A	IR25MW56A	IR25MW900B	IR25MW902I
Location Relative to Treatability Area	Outside: 18 ft W of center	Outside 27 ft N of center	Outside 28 ft NE of center	Inside @ center	Inside: 7 ft W of center	Inside: 9 ft W of center	Outside: 18 ft W of center	Outside: 13 ft W of center
Collection Date	3/24/2004	3/24/2004	3/24/2004	3/25/2004	3/25/2004	3/25/2004	3/25/2004	3/25/2004
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	. na/r
PCE	3600	32700	278	<5	32600	1650	886	31300
TCE	515	30400	764	<5	2500	620	1010	10600
Cis-1,2-DCE	3580	20100	3030	152	59300	2790	1010	24800
Vinyl Chloride	908	4960	428	140	3700	820	250	3800
1,2-DCA	313	89500	3450	250	51200	2380	150	52700
1,2- Dichlorobenzene	8390	40400	406	446	32800	4910	1250	31200
2,4-Dimethylphenol	110	2300	<9.6	<9.6	4810	48	<9.6	13000
Aroclor 1260	0.3J	<0.96	0.2J	<1	0.8J	· <1	<1	0.06J
Bromide	1.3J	11.7J	21.6J	4.5J	Not Analyzed	<250	21.3J	23.9J

# **Treatability Study Conditions**



# Treatability Area Groundwater Data

Well Identity	IR25EW01A Inside: 18 ft W of center		IR25MW53A Inside: @ center		IR25MW54A		IR25MW58A Inside: 9 ft W of center	
Location Relative to Treatability Area								
	3/24/2004	5/10/2004	3/25/2004	5/10/2004	3/25/2004	5/10/2004	3/25/2004	5/10/2004
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
PCE	3,600	1,320	<5	55	32,600	11,300	1,650	250
TCE	515	492	<5	52	2,500	4,300	620	140
Cis-1,2-DCE	3,580	13,600	152	3,500	59,300	49,900	2,790	5,110
Vinyl Chloride	908	2,940	140	2,300	3,700	10,500	820	1,900
1,2-DCA	313	1,050	250	192	51,200	22,200	2,380	2,830
1,2-Dichlorobenzene	8,390	14,000	446	4,620	32,800	24,000	4,910	4,530
2,4-Dimethylphenol	110	NA	<9.6	NA	4,610	NA	48	NA
Aroclor 1260	0.3J	0.5J	<1	0.03J	0.8J	<0.98	<1	NA
Bromide	1.3J	2	4.5J	44	NA.	0.75J	<250	NA.

## **Dehalococcoides (DHC)**



<u>Dehalococcoides (DHC)</u> - naturally occurring microbe known to dechlorinate chlorinated ethenes like PCE, TCE, DCE, & VC

- Analysis of groundwater from Treatability Area indicates these microbes existed before beginning Treatability Study -- this is positive
- Method targets organism-specific DNA for identification

# Treatability Study Conditions: Dehalococcoides (DHC)



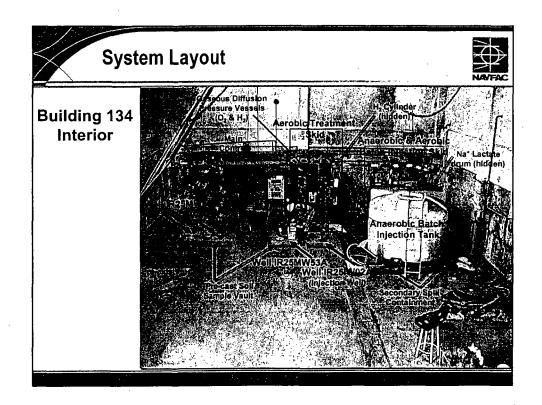
# **Analytical Results**

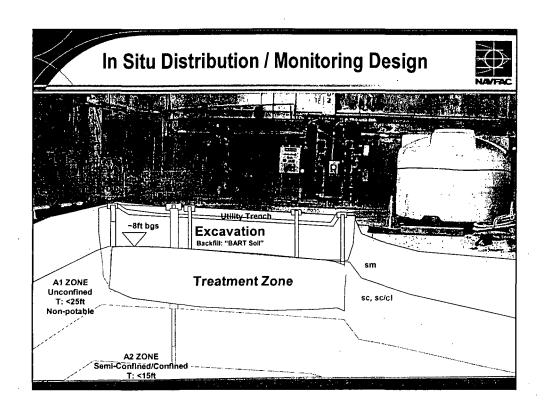
Collection Date	Well Identity & Location	Sample Volume Required (L)	Sample Volume Recovered (L)	DHC concentration (cells/mL)
3/25/2004	IR25IW2A Inside: 5ft E of center	1	1	120
	IR25MW53A Inside: @ center		. 1	450

# Dehalococcoides (DHC) Analytical-Related Conclusions



- DHC is present in groundwater at Treatability Area
- DHC presence provides mechanism for dechlorination of chlorinated ethenes to occur
- DHC presence indicates suitable environment for dechlorination
- Ethene concentrations (>1000 ug/L) in groundwater
- Presence of ethene in addition to PCE, TCE, DCE, and VC indicates microbial dechlorination has been occurring at Treatability Area before beginning Treatability Study





# Overview



- Objectives
- •Planned Building 322 Activities
- Survey Results
- Schedule

# **Objectives**

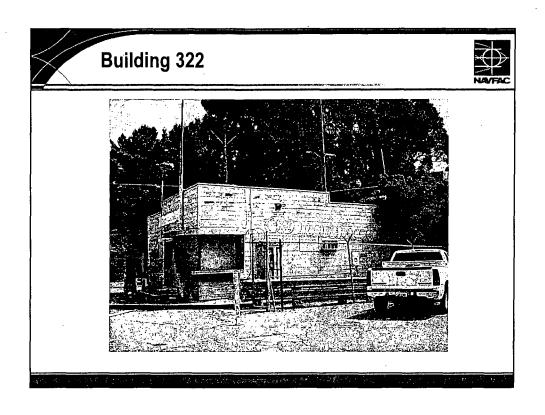


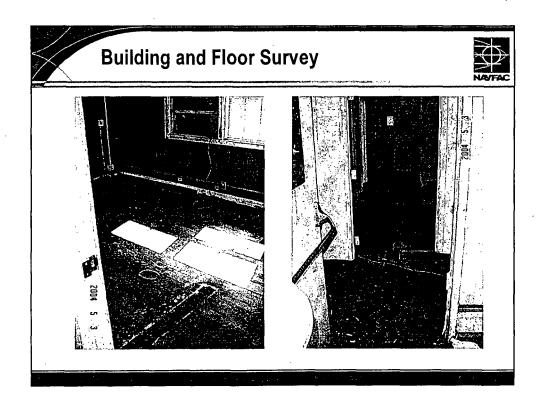
- Evaluate Building 322 for radiation impacts
- Address concerns if found
- · Work with DHS to release building
- Update FOST with Building 322 results
- Transfer Parcel A

# **Planned Building 322 Activities**



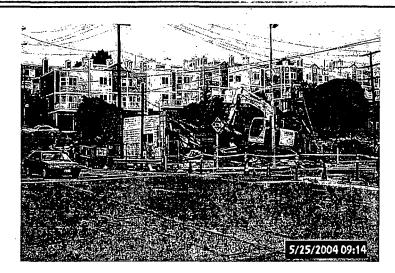
- Perform radiation survey of Building 322
  - -Furniture, floor and building survey
  - -Building demolition
  - -Slab survey and removal
  - -Footprint survey
- Complete survey report
- Incorporate survey results into Draft FOST Revision 3





# **Building Demolition**





# **Survey Results to Date**



- ·No radiation above background determined
  - -Furniture survey complete
  - -Building survey complete
- •Floor survey showed differences in concrete slab at patch of newer material
  - -Laboratory analysis performed
  - -Patch in slab within background range (natural potassium)

### Schedule



- •Complete demolition- May 27
- •Slab survey June 1
- •Footprint Survey June 21
- •Submit Survey Report July 13
- •Regulator Review of Survey Report July 14-Aug 12
- •Draft FOST Revision 3 Aug 18
- Regulator review of FOST Aug 19 Sept 9
- Finalize FOST Sept 17
- Transfer Parcel A October 8



# Hunters Point Shipyard HRA Update 27 May 2004

Laurie Lowman
Director, Program Support and LLRW
NAVSEADET RASO

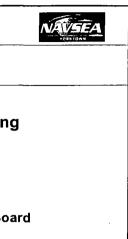


# **Draft Final HRA Comments**

- Published February 2004
- Comment period
  - 27 February 27 April 2004
- Responses to comments due 45 days after comment period closed
  - 11 June 2004
- RASO requested extension to 9 July for responses to comments

5/26/2004

HPS



# Commentators

- Following submitted comments requiring responses or revision of the HRA:
  - Navy commands
    - · SWDIV, NAVSEA, RASO
  - EPA Region IX
  - California Regional Water Quality Control Board
  - City of San Francisco
    - Department of Public Health
  - Arc Ecology
  - Dr. Ahimsa Sumchai

5/26/2004

HPS

3

# State of California

- Letter received from Waste Management Section of DHS
  - Based on interagency agreement with DTSC
- "...found it adequate for providing a basis for site characterization and planning...it is assumed that further information will be forthcoming."

5/26/2004

HPS



# **Comment Topics**

- Discrepancies in the identification of buildings, building sites and IR sites on HRA tables
- Disposition of OPERATION CROSSROADS ships
- History of impacted sites
- Reassessment of contamination and migration potentials

5/26/2004

HPS

5

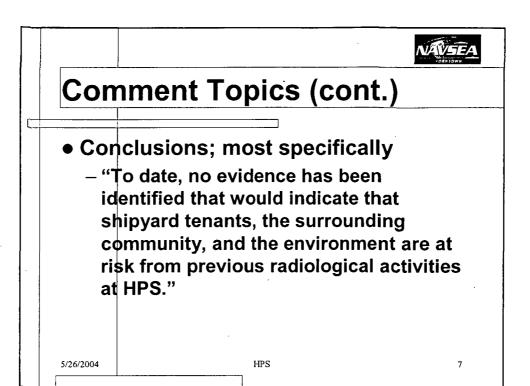


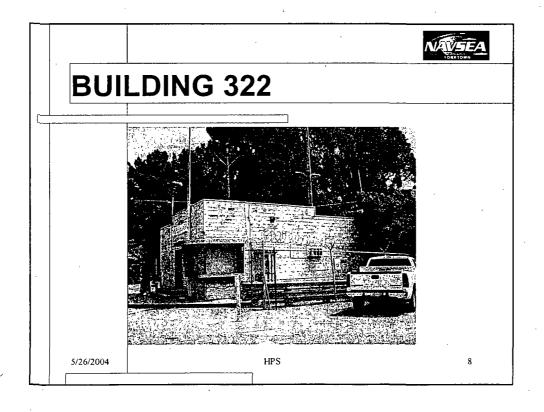
# **Comment Topics (cont.)**

- Impacted site building floor plans
- Impacted site recommendations
- Diagrams of sanitary and storm drain systems
- Phase V Investigation Reports
- Parcel risk assessments

5/26/2004

HPS





Rad at HPS



# Building 322, Parcel A

- Building relocated from Parcel D to Parcel A
- Identified during review of Final Draft HRA when Building number was listed in two parcels
- Technically not an impacted site as no radiological operations were performed in Parcel A

5/26/2004

HPS

9



# **Building 322 Description**

- One story wooden structure
- Approximately 73.72 m²
- Located at the intersection of Donahue and Innes Streets
- Raised wooden floor on a concrete slab
- Used as the North Gate Pass Office beginning in 1968.

5/26/2004

HPS



# **Building 322 Surveys**

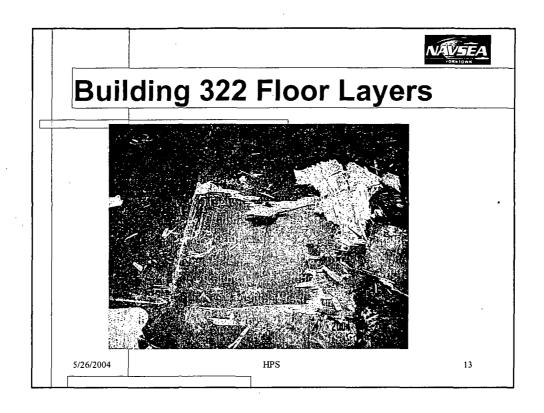
- Radiological disposition survey currently ongoing
- Being done because minimal Cs-137 contamination was found at Parcel D site during Phase V Investigation
- Radioisotopes of concern are same as Building 322 site in Parcel D
  - Pu-239, Cs-137, Sr-90, Ra-226, Th-232

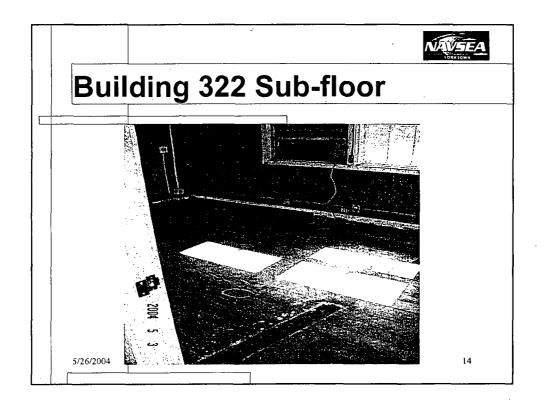
5/26/2004

HPS

1

# Surveys (cont.) To date, disposition survey found No contamination on walls Three layers of plywood flooring Each covered with a minimum of one layer of tile Each plywood layer screened and removed No contamination No contamination in piping and ventilation systems





Rad at HPS

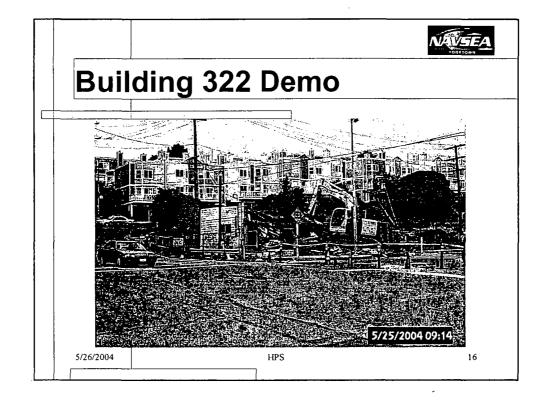


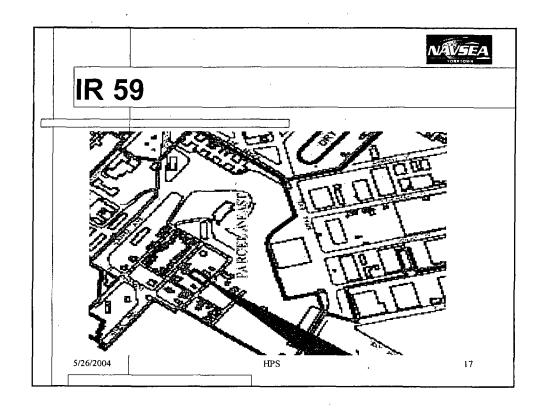
# **Building 322 Disposition**

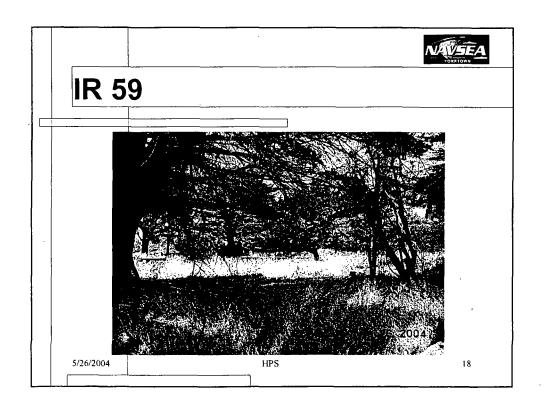
- Building will be de-constructed
- Truckloads of building debris will be radiologically screened prior to leaving HPS
- Concrete slab will then be screened for release and removal
- Final Status Survey will be performed on footprint of building

5/26/2004

HPS









# Parcel A, IR-59

- Questions raised due to sandblast grit found during a 1995 RI
- Site is a vacant lot measuring 153 by 70 feet
- Former site of four quonset huts constructed between 1935 and 1948
  - Removed prior to 1977
- Temporary structures on lot in 1982 were removed by 1989
  - Use unknown

5/26/2004

HPS

19



# IR-59 (Cont.)

- In 1994, sandblast grit was found while repairing a water line broken during an excavation
- The sandblast grit appeared to have been used as backfill for a utility trench for sanitary lines servicing the quonset huts
- The sewer line was dismantled with the north end plugged where it exited IR-59

5/26/2004

HPS

20

Rad at HPS



# IR-59 (Cont.)

- Sandblast grit was identified as black granular particles commonly referred to as "black beauty"
- Paint chips were identified in the grit
- Samples identified pesticide, chemical and heavy metal contamination
- No radiological analysis was done

5/26/2004

HPS

2



# IR-59 (Cont.)

- During the 1995 RI, the lateral and vertical extent of the sandblast grit were determined and the sandblast grit was excavated
- Minor amounts from scattering during the removal may remain
- Currently site is covered in vegetation with broken asphalt walkways.

5/26/2004

HPS



## **Current IR-59 Plans**

- IR-59 is not identified as an "impacted site" as no radiological operations or disposal have been associated with the site
- Further radiological site investigation is not warranted

5/26/2004

HPS

23

# NAVEA

# Sandblast Grit at HPS

- Sandblast grit sampled to date has only identified naturally occurring radioactivity indigenous to the sandblast grit
- Due to the history of the use of sandblast grit at HPS, the Navy will ensure any sandblast grit discovered at HPS will be sampled for radioactivity.

5/26/2004

HPS

24

Rad at HPS



# **Pending Projects**

- Characterization of the Metal Slag/Metal Reef in IR-02
  - Work Plan is being reviewed by regulators
- IR-02 Northwest and Central Radiological Removal
  - Work Plan is being reviewed by RASO

5/26/2004

HPS

25

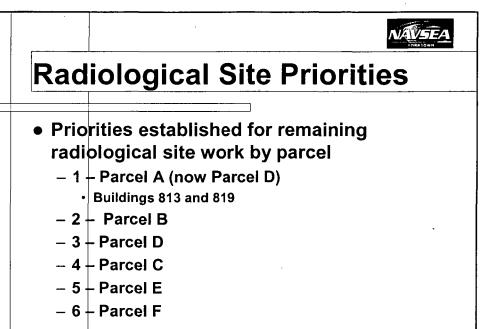


# Pending Projects (cont.)

- ▶ PCB Hot Spot Soil Excavation
  - Radiological aspects of work plan being reviewed by RASO
- Building 819 Dismantling, Removal and Packaging
  - Work Plan being reviewed by RASO

5/26/2004

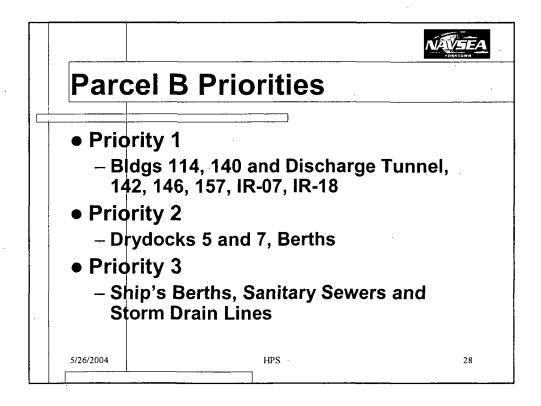
HPS



HPS

27

5/26/2004





# **Parcel D Priorities**

- Priority 1
  - Buildings 351A, 364, 366
- Priority 2
  - Buildings 408 and 500 and Building 503 site
- Priority 3
  - Ships Berths, Sanitary Sewers and Storm Drain Lines

5/26/2004

HPS

29

# Parcel C Priorities Priority 1 - Buildings 211 and 253 Priority 2 - Buildings 203 and 205 Priority 3 - Ship's Berths, Sanitary Sewers, and Storm Drain Lines



# Parcel E Priorities

- Priority 1
  - Experimental Shielding Range, IR-01/21, IR-02, and Shoreline
- Priority 2
  - 500 Building Site Area, 506 Site, 507
     Site, 508 Site, 509 Site, 510 Site, 510A
     Site, 517 Site, 520 Site, 519 Site,
     Building 521, Shack 79 and Shack 80

5/26/2004

HPS

